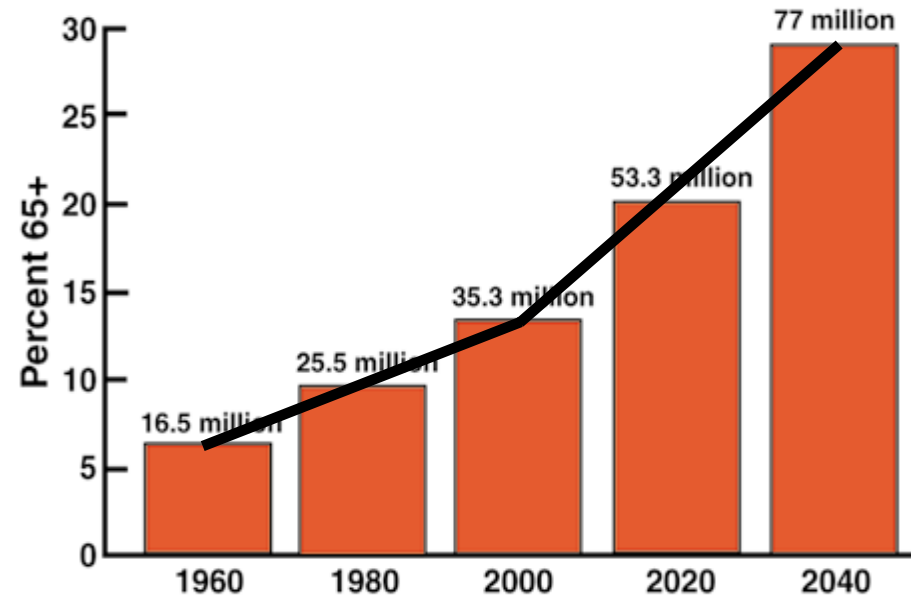




America will continue to age as a nation

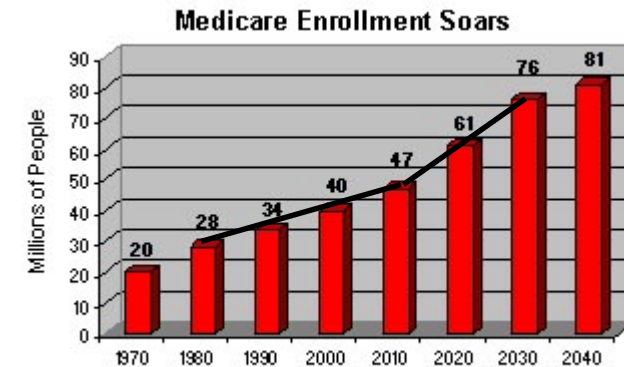


Adults age 65+ as a proportion of total US population

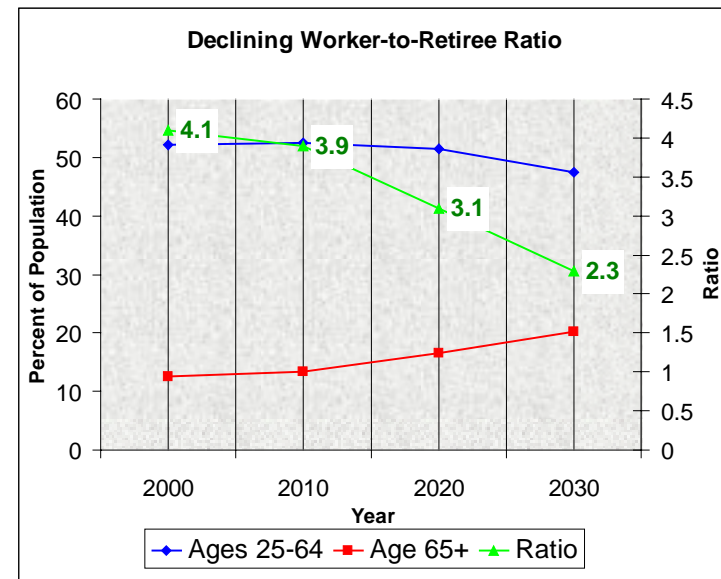


Source: US Census

The 'graying population' will impact 'social' security



Source: Health Care Financing Administration



The 'graying population' will impact 'social' security

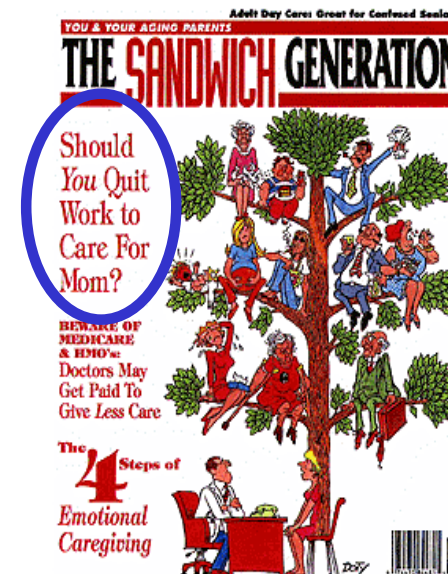


“The “typical” caregiver is a 46-year-old woman, married and working, who spends around 18 hours a week caring for her elderly mother.”

*The National Alliance
for Caregiving*

“two-thirds of people who act as caregivers had to pass up such gains as promotions, pay raises, training opportunities and pension benefits”

*The National Alliance
for Caregiving*



The 'graying population' will impact national security

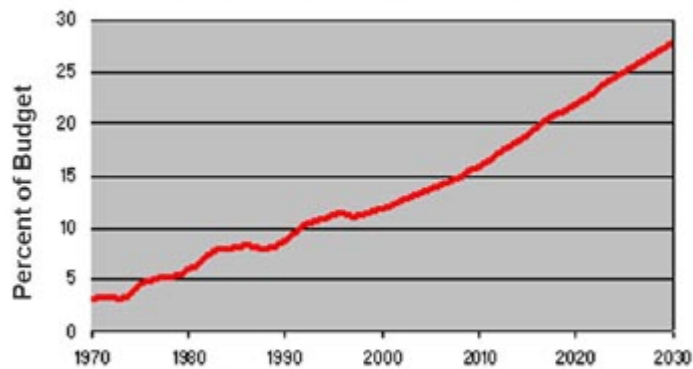


NEW WORLD COMING: AMERICAN SECURITY IN THE 21ST CENTURY

Warren B. Rudman
Warren Rudman

Gary Hart
Gary Hart

Medicare Growth Pressures Federal Budget



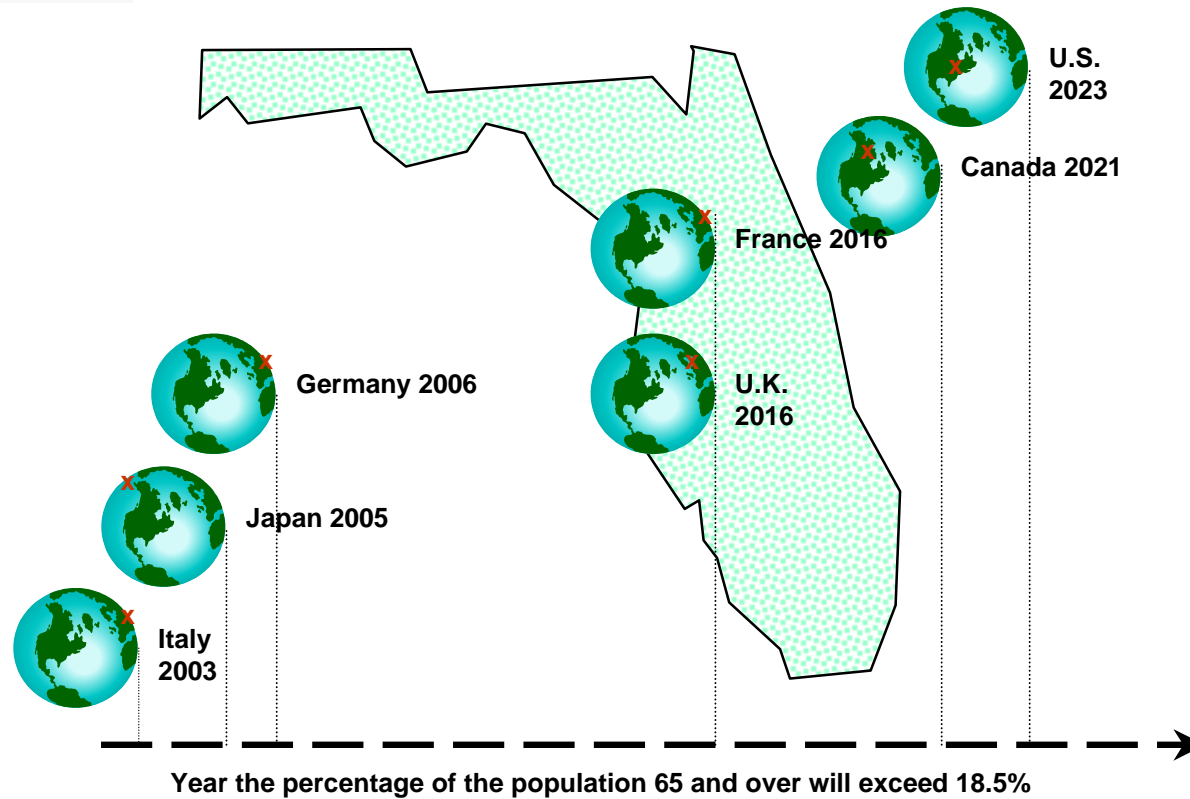
Source: Congressional Budget Office / National Medicare Commission

“the definition of national security must include all key political, social, cultural, technological, and economic variables that bear on state power and behavior”

“As the country ages, costs for health care will constitute an increasing fiscal burden and will stand in competition with other spending, including spending for defense and foreign policy”

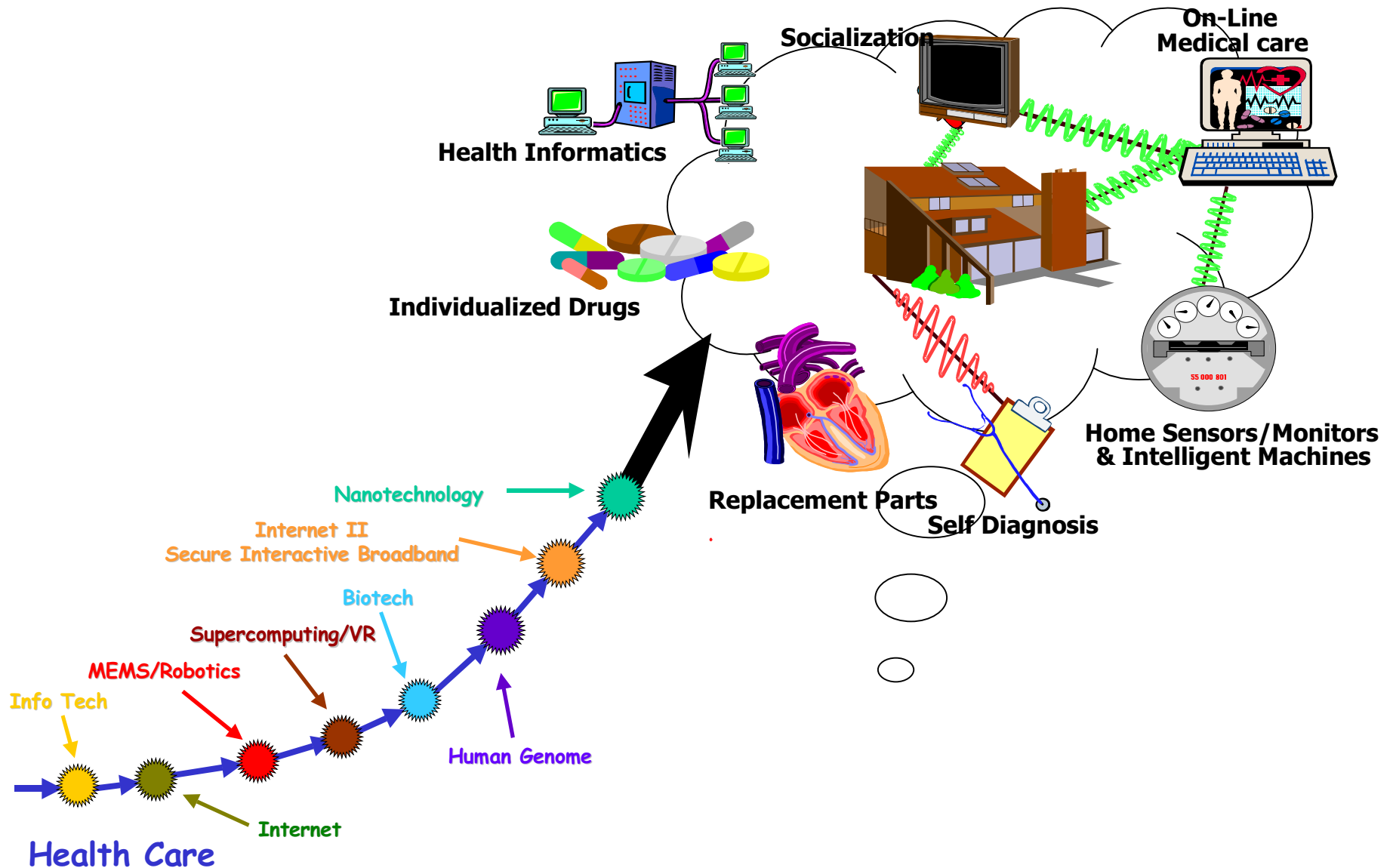


It's not just our situation



The Floridization of the developed world is underway

Many Enabling Technologies Could Revolutionize Health Care



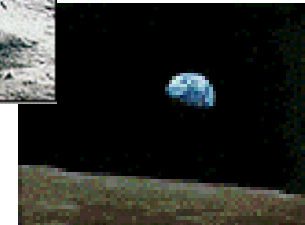


So why us?



Some of our Thoughts

- **Big national challenge with enormous public policy considerations including national security implications**
- **Complex issue requiring a holistic (system-level) approach to a solution**
- **Many disciplines required, including social, political, ethical, and technical**



Now we'd like you to tell us yours



Changing the Health Care Experience for our Aging Population



Maintain Independence, Productivity and Mental Well Being



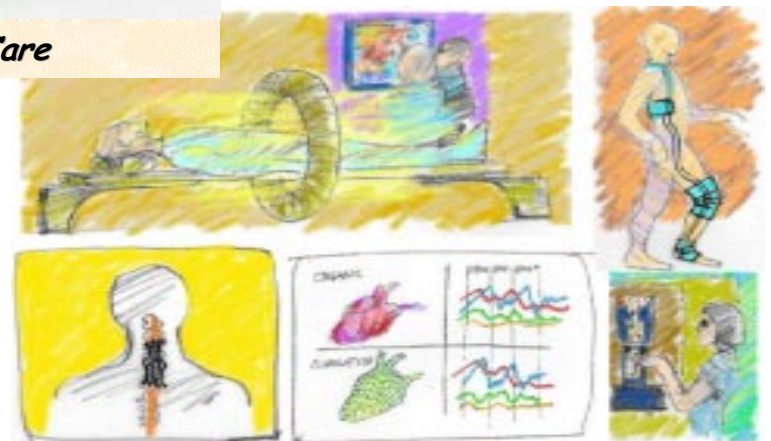
Aid the Caregiver



Improve Institutional Care



Educate the Health Care Worker of the Future



Advance the State of the Art in Medicine



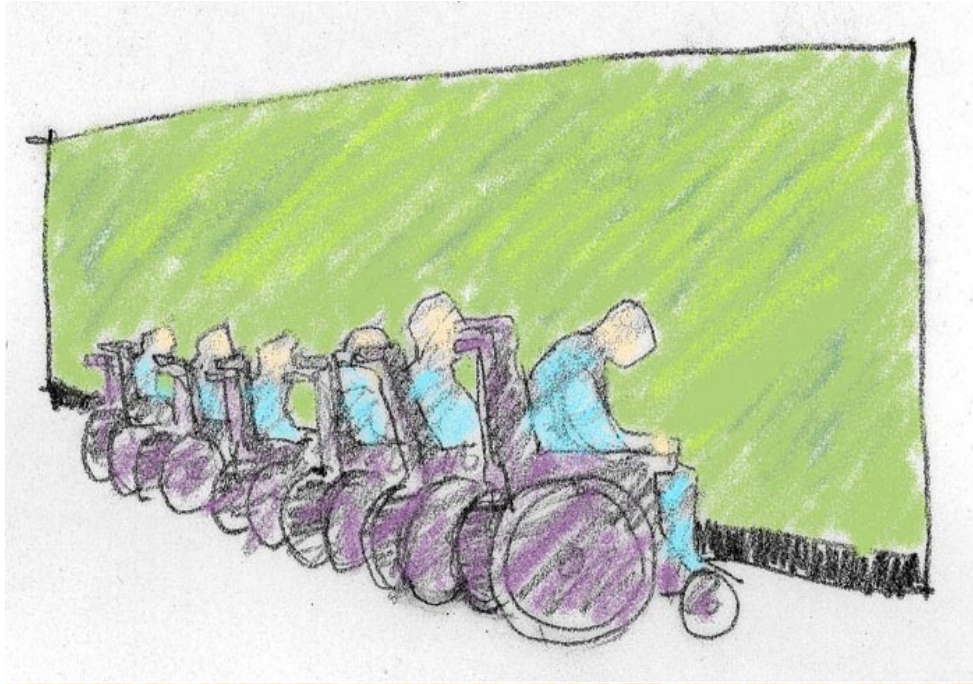
***Maintain Independence,
Productivity and Mental Well Being***

- Bring more medical diagnostics and medical delivery into the home
- Improve mobility through intelligent assistive devices and advanced prostheses
- Improve the ability to interact with others and maintain mental acuity.



Aid the Caregiver

- Minimize time required to 'oversee' needs of aging parents through extensive use of secure Internet communications.
- Using "smart" devices to equip the home



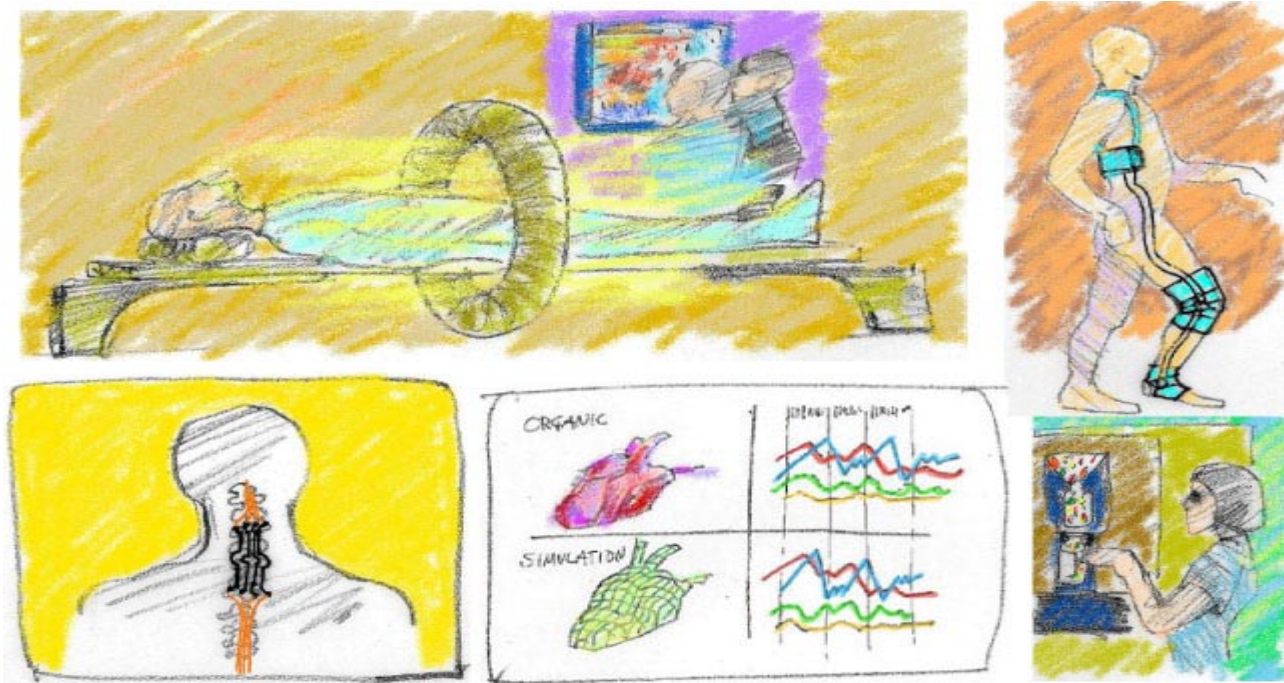
Improve Institutional Care

- Using "smart" devices to equip the nursing home
- Using computer interfaces for disabled residents of nursing homes
- Monitoring status of resident populations and quality of care



Educate the Health Care Worker of the Future

- Develop a new category of telemedical health care worker
- Develop partnership with educational institutions to build this program



Advance the State of the Art in Medicine

- Using computer simulation for personalized drug creation
- Ultra high resolution imaging of organs and disease
- Nervous system prostheses through nanotechnology
- Modeling and simulation for engineering of advanced artificial organs
- Tools for improved outcomes research, epidemiology and public health surveillance
- Tools for improved understanding of cellular biology

Health Care:

- social interactions
- mobility
- mental acuity

Underlying Principles:

- sense of dignity
- self worth

**Physical
Condition**

**Health Care
Descriptors**

**Attitude
Descriptors**

Stable

- Maintaining
- Improving
- Monitoring
- Adjusting
- Managing

- Hopeful
- In control
- Independent
- High sense of dignity/ self-worth
- Outlook is long-term

Significant Decline

- Coping
- Assisting or being assisted
- Rehabilitating
- Dealing with chronic pain or discomfort

- Apprehensive
- Feeling of loss of control
- Concerned about loss of independence
- Concerned about maintenance of dignity/ self-worth
- Uncertain about the future

Life-threatening

- Surviving
- Undergoing drastic medical intervention
- Retaining or regaining cogency
- Dealing with severe pain or discomfort

- Fearful
- Relinquishment of control to others
- Tolerance of loss of dignity
- Low sense of self-worth
- Highly uncertain about the future